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March 10, 2017

California Department of Water Resources (DWR)
123 Address1
City, State Zip

RE: Water Available for Replishment Report

Dear Mr. /Ms. :

Thank you for the opportunity to comment on the draft Water Available for Replishment Report. DWR staff have certainly worked hard within the available time to meet Sustainable Groundwater Management Act (SGMA) requirements to quantify Water Available for Replenishment (WAFR) for the many basins in California.

As Provost & Pritchard Consulting Group operates with eight offices in the Central Valley, with hundreds of water agency clients mostly in the Central Valley, our interest and comments are focused on that enormous region. The Central Valley is certainly one of the most difficult to quantify WAFR given its size and complexity. And yet because overdraft has been calculated to be in the millions of acre-feet per year, groundwater replenishment is perhaps the most important topic to the Central Valley. Besides land fallowing, which is always last resort, groundwater replenishment is one of the few "tools in the sustainability belt" that can address overdraft (along with water conservation and impaired water reclamation). As residents of the Central Valley, and experts in water resources, our engineers, geologists, and planners were astounded to see how low DWR's WAFR numbers were for the groundwater basins in the Central Valley. Surely something is wrong with these numbers. And, indeed there are.

What is most troubling is the possibility that DWR may use WAFR numbers to "fail" Groundwater Sustainability Plans that include replenishment projects that add up to greater numbers than DWR's WAFR numbers, which again are miniscule versus the need. Therefore, this hasty exercise, while required by SGMA law, did not provide sufficient time and transparency to allow more scrutiny of the numbers. Only DWR modelers can know how WAFR was calculated given the way it was determined. We urge DWR to keep this document as a draft longer, and extend the comment period at least 60 days.

Within the time available for review, our staff prepared the following observations about the draft WAFR report, again with focus on Central Valley basins and not in any particular order:

- Astoundingly <u>flood water was not included</u> in the estimates! Many local agencies are planning groundwater replenishment projects with water that will utilize their current water rights within existing environmental protection laws and flood waters that currently are lost to beneficial use. The quantities of water currently lost to beneficial use in the Central Valley including underutilized water rights and flood waters are gigantic compared to DWR's WAFR numbers in wet periods. There is surely a need to revise the

DWR WAFR numbers to include water that: a) flow out the Delta in quantities that exceed environmental outflow requirements, b) flood land, and c) otherwise exit the Central Valley in man-made conveyance channels for flood protection purposes (such as flood waters discharged into the California Aqueduct.

- Dormant flooding of crop land should be added as a way to replenish groundwater
- The WEAP model is the wrong tool for estimating WAFR, as it was created for modeling and estimating water supply reliability, and DWR admits it has many flaws and inaccuracies for this exercise. These include the fact that WEAP is based on Hydrologic Region (HR) and Planning Area (PA) boundaries which do not correlate with Groundwater Sustainability Agency (GSA) boundaries.
- Using the same WAFR ratio for all PAs is a gross over-simplification.
- The way Mountainous areas (PAs) were considered in the calculation need more clarification with regard to the assumptions used
- Considering water saved through conservation measures as an additional source of water for replenishment is not always true. Consideration of the current fate of the water conserved is essential. For example deep percolation usually recharges useable groundwater and operational spills & tailwater frequently are reused by others or contribute to meeting environmental flow requirements. So, conserving that water does nothing for basin wide groundwater balance (but can have other benefits such as power conservation and reduction in contaminants).
- The range of variability of WAFR estimates are very large rendering the “best estimates” too difficult to determine with the methodology employed.

Again, thanks for the opportunity to comment. This letter is not intended to represent the voice of any of our clients individually or collectively, but rather it is simply an expression of concern based on our professionals at Provost & Pritchard who have reviewed the report and think it deserves revisions to improve the findings.

Respectfully,

Ronald Samuelian
President
Provost & Pritchard Consulting Group
Initials